



Newsletter of the Indian Peaks Chapter of the Colorado Archaeological Society January, 2010

CALENDAR OF EVENTS

Presentation (lecture) meetings are held in the University of Colorado Museum, Dinosaur Room on the Second Thursday of most Months, at 7:00 PM. **The public is always welcome**.

Web Site: WWW.INDIANPEAKSARCHAEOLOGY.ORG

2010 AIA/APA Joint Annual Meeting, Anaheim Marriott Hotel, Orange County, CA

January 0-9	2010 AIA/AI A Joint Ainida Meeting, Anancim Mariott Hotel, Orange County, CA			
January 7	IPCAS Executive Board Meeting, 7:30			
January 14	IPCAS Presentation Meeting, Kevin Black, Topic: Lithic Sourcing			
January 24	Colorado Springs Chapter is hosting the one-day PAAC class - see article this page			
-				
February 4	IPCAS Executive Board Meeting, 7:30			
February 11	IPCAS Presentation Meeting, Bob Rushforth,	Inside This CALUMET		
	Topic: "Aviation Archaeology"	Calendar of Events 1		
February 22	CU Lecture Series, CU Museum, Nejib ben Lazreg,	January PAAC Class 1		
•	Topic: "The Mosaic of the Wrestlers from Thapsus"	January Presentation 2		
	1	Byron Olson Tribute 3		
March 4	IPCAS Executive Board Meeting, 7:30	Otzi, "The Iceman" 7		
March 10	CU Lecture Series, CU Museum, 7:00, Beth Dusinberre,	Otzi, Herdsman Clothing 7		
	Topic: "The Achaemenid Empire"	Otzi, Last Meal 8		
March 11	IPCAS Presentation Meeting, TBA	Otzi, Mitochondrial Genome 8		
		Stone Age Pantry 9		
April 1	IPCAS Executive Board Meeting, 7:30	California Droughts 10		
April 8	IPCAS Presentation Meeting, Dr. Arthur Joyce,	December Board Minutes 11		
	Topic: Rio Viejo Site, Oaxaca, Mexico	Officers/Board Members 12		
May 6	IPCAS Executive Board Meeting, 7:30	Membership Application 12		
May 13	IPCAS Presentation Meeting, TBA			

Introduction to Archaeology, CAS & PAAC

Do you have a yen for learning more about archeology? Here's your chance, and it involves only a one-day trip to Colorado Springs on Sunday, January 24, 2010. Between 8am and 5pm on that date, Kevin Black will present this topic as an introduction into the PAAC (Program for Avocational Archaeological Certification) program of classes. This course includes (a) a basic summary of the field of archaeology, common terminology, and Colorado's place in North American prehistory, (b) an introduction into the PAAC program, (c) the functions of the Colorado Archaeological Society (CAS) including interactions with the Office of the State Archaeologist of Colorado, (d) how State & federal laws protect archaeological resources, and (e) the codes-of-ethics we have adopted. To register, contact the Pikes Peak Chapter PAAC Coordinator in Colorado Springs, Sue Sproul, at 719-591-2922 (home) or suesproul@comcast.net. Sue will ask you to send a check to her, including your phone number, postal address, and e-mail address. The location is the Gold Hill Police Substation at 955 West Moreno Avenue, Colorado Springs, 80905. The fee for CAS members (you are automatically as CAS member as a fully paid member of IPCAS) is \$12 – for non-CAS members it is \$20 – payable to the "Colorado Historical Society." Per information from Sue, signup continues until January 8, 2010, but it's possible she will continue to accept registrations after that date. Payment must be made at time of registration.

By the way, our PAAC classes in Boulder, for both CAS and non-CAS members, now cost only \$22 for 7 sessions – a bargain! Questions, contact Dave Hawley at 303-443-2332 or dave_hawley@comcast.net

Small Lithic Sources, Antelope Gulch Area, Central Colorado

Abstract: In eastern Chaffee County, Colorado the well-known Trout Creek chert source—5CF84—is defined by outcrops, quarry pits, and related workshop debris covering at least 1,000 ac (405 ha). This dendritic chert or jasper varies in color from yellowish brown to maroon and is widely recognized as having been a major source of toolstone since at least Folsom times.

A growing body of data, however, shows that many cherty materials similar in macroscopic appearance to Trout Creek occur in a series of outcrops spread through the southern Mosquito Range, adjacent portions of South Park, and the Arkansas River canyon in Chaffee, Fremont, and Park Counties.

Results from the on-going Antelope Gulch Survey project add to the evidence for local use of non-Trout Creek cherts and jaspers, many of which outcrop in exceedingly small patches very nearly exhausted by prehistoric procurement activity.





5FN2337 Artifacts

5FN2447 Core Material

Kevin Black Autobiography

I have worked as an archaeologist since 1976. I graduated from the University of Colorado-Boulder in 1977 (B.A.) & 1979 (M.A.–Anthropology), with graduate work for Dr. Payson Sheets in El Salvador, Central America. Following graduate school, I was employed by consulting firms in Montrose (1979–81) and Eagle, Colorado (1981–88) as a staff archaeologist, conducting inventories and excavations in the western U.S., especially in Colorado, Wyoming and Utah. Since 1988, I have been employed in my current position as Assistant State Archaeologist at the Colorado Historical Society (CHS).

My primary duty is state coordinator of the Program for Avocational Archaeological Certification (PAAC), largely consisting of teaching 13 different classes in archaeology for local chapters of the Colorado Archaeological Society and other groups around Colorado. I am also involved in administrative functions such as reviewing and issuing permits for archaeological and paleontological work on state land, and providing technical assistance to other CHS managers and the public.

In a typical year, I also present an average of 10 talks to public and private organizations, state parks and schools. Recent field work includes inventories of state land for PAAC training at Dinosaur Ridge near Morrison and at Pike's Stockade in the San Luis Valley, state wildlife areas near Buena Vista and Hartsel, state-leased lands near Cortez and Trinidad; and salvage excavations of several unmarked human graves all over the state. I have authored or co-authored more than 90 technical reports, 25 conference papers, and 20 publications (journal articles and book chapters).

Byron Olson Tribute:

Good Times, Good Friends, Great Scenery, and Fine Memories

By Michael Landem

From The Bismarck Tribune, Posted in Obituaries on Saturday, November 14, 2009 2:00 am Byron L. Olson, 61, Bismarck, passed away on Nov. 6, 2009, in his home from complications of pancreatic cancer. A memorial will be held at 2 p.m. today, Nov. 14, at the Old Gym in Fort Yates. An informal remembrance gathering will be held from 2 to 5 p.m. Sunday, Nov. 15, at his home in Bismarck, 807 N. Fourth St. He was preceded in death by his father, William H. Olson; his brother, William "Bill Jr." Olson; and his sister, Beryl Peterson. He is survived by his mother, Burdene Olson; his sister, Bonetta Olson; his daughter, Caroline Olson; and his stepson, Anthony Turner. Byron was born in Colorado Springs, Colo., on Aug. 13, 1948. An interest in science and a love of the mountains led him to pursue geology at an early age. He attended Cheyenne Mountain High School and went on to attain higher education at Rice University, Colorado College and the University of Arizona in Tucson, ultimately receiving his master's degree in archaeology. Thus began a life-long passion for the study of ancient peoples. Also talented in art, Byron worked for many years as a professional stained-glass artist. After moving to North Dakota, he began working as the Tribal Archaeologist for the Standing Rock Sioux Tribe out of Fort Yates. Byron's last years were perhaps his most fulfilling, as he found great satisfaction in working with the people of Standing Rock, many of whom became good friends. His family would like to express a sincere, "thank you", to the doctors and staff of St. Alexius Medical Center for the expert care they provided. In lieu of flowers, memorial donations may be made to the State Historical Society of North

The following notice was submitted to the CCPA by Gordon Tucker.

"I learned yesterday that Byron Olson has died of pancreatic cancer. Until his death, Byron had been the Tribal Archaeologist with the Standing Rock Tribe in Fort Yates, North Dakota. Many archaeologists in the western U.S., if they didn't know Byron personally, will remember him as the co-author (along with Jim Benedict) of the seminal monograph, The Mount Albion Complex: A Study of Prehistoric Man and the Altithermal, published in 1978 by the Center for Mountain Archaeology. Byron worked closely with Dr. Benedict over the years on a number of high-altitude sites in Colorado, research that contributed greatly to our understanding of human settlement in the mountains of Colorado and adjacent states. I was fortunate to work closely with Byron in the early to mid-1990s, when he was the District Archaeologist, based in North Dakota, for Powers Elevation Co., Inc. I remember Byron as an outstanding field archaeologist, with a deep understanding of geomorphology and its interrelationship with archaeology. He was also a kind and gentle soul, and I will miss him". --Gordy Tucker

From Michael Landem:

Dakota Foundation.

I first met Byron and his daughter Caroline in the summer of 1995 on the shores of Caribou Lake in the Indian Peaks Wilderness. They were volunteers working under the direction of Bonnie Pitblado. She was successfully pursuing the Paleoindian component of the Caribou Lake Site (5GA22), first excavated by Dr. James Benedict in 1970 and 1971.

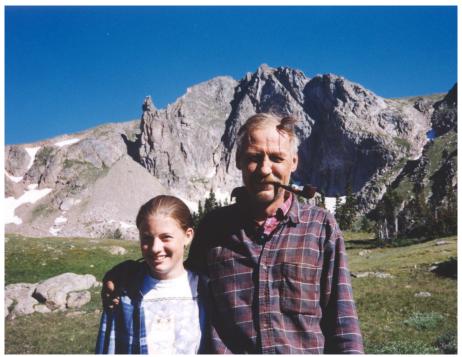
I was the pack animal bringing cold beers mid-week to a very thirsty crew. The next year I also stopped by. I met them again in the Devil's Thumb Valley. There, Caroline assisted Jean Kindig on the Devil's Thumb Trail Site (5BL6904) while Byron helped his old friend Jim Benedict excavate the nearby Devil's Thumb Valley Game Drive (5BL3440).

It seemed that for many years, whenever I entered a valley high above timberline in the Indian Peaks Wilderness, there they were, Byron and Caroline, digging away like a pair of Golden Mantled Ground Squirrels (Spermophilus lateralis) eyeing the first snowflake of the season.

Finally, to gain a little peace and quiet on his vacations, Byron hired me to excavate sites around Williams Fork Reservoir while he snuck back to the Indian Peaks to work with Jim Benedict. I forgave him because he kept hiring me year after year and thanks to Byron, I have enjoyed for the past fourteen years an unanticipated second career in Archaeology.

He was a master of the craft, and it was a privilege to work with him. Despite the ten-hour days, the six inches of rain in two months, the angry bison leaning over the weakened fences, I enjoyed every minute of it. His gentle good nature and fine sense of humor made the worst field conditions tolerable. He always managed to assemble diverse crews of interesting and intelligent characters. And we always had fun.

I think the best way to pay tribute to the life of Byron Olson is to show him in a series of photographs, at work and at play, which for him and a small handful of lucky individuals are one and the same thing.



Caroline and Byron Olson, Devil's Thumb Valley, 1996. Michael Landem took most of the photographs in this article.



The Crew, Devils Thumb Valley, 1996, left to right, Jim Benedict, Tim Kerr, Steve Montgomery, Caroline Olson, Byron Olson, Pam Baker, Quentin Baker.



On the Williams Fork Reservoir Land Exchange Project, Byron was asked by Frank Rupp to "dig to the Pliestocene". Here he is shown standing in his ½ meter x 1 meter unit, already well over seven feet deep. He stopped when he hit a layer of large cobbles indicative of Pleistocene high energy transport.



Archaeologists (left to right) Mike Garcia, Naomi Rintoul, Byron Olson and Travis Kithch, excavating the Buffalo Hill Site (32ME1444), an Upper Missouri stone circle site in central North Dakota. Byron wrote an exceptional report on this and the Lorenz Site entitled *The Lorenz and Buffalo Hill Sites: Mitigation of Two Stone Circle Sites Along the Dakota Gasification CO2 Pipeline, Dunn and Mercer Counties, North Dakota.* He wrote this report as an unpaid volunteer after his employer at the time, Powers Elevation Company, went out of business in 1999.



Archaeologists (left to right) Christa Fromke, Travis Kithch, Byron Olson and Greg Newberry excavating the Lorenz Site (32DU1180). Screeners Angela Jares and Chad Nieskens may be seen on the right. This was a Besant stone circe site located about 35 miles west of Buffalo Hill. As we worked, a long line of massive machines ground their way towards us over hill and dale, leaving a swath of cleared ground 150 feet wide. We were forced to bag and label every 5 centimeter deep quad of excavated material and pile them just off the right of way for later screening and artifact recovery.



Byron and Mike screening for Jim, Devil's Thumb Game Drive, 1996. For a report on this excavation, please see *This Land of Shining Mountains, Archaeological Studies in the Indian Peaks Wilderness Area*, editied by E. Steve Cassells, Research Report # 8, Center for Mountain Archaeology, Ward, Colorado.

Mystery Of 5,000-Year-Old Glacier Mummy, The Iceman, Solved

ScienceDaily (June 7, 2007) — An Italian-Swiss research team, including Dr. Frank Rühli of the Institute of Anatomy at the University of Zurich in Switzerland proved the cause of death of the Iceman ("Ötzi," 3300 BC) by modern X-ray-based technology. A lesion of a close-to-the-shoulder artery has been found thanks to a CT scan or multislice computed tomography, finally clarifying the world-famous glacier mummy's cause of death.

The Iceman is a uniquely well-preserved late Neolithic glacier mummy, found in 1991 in South Tyrol at 3,210 meters above sea level. He has undergone various scientific examinations, as human bodies are the best source for the study of life conditions in the past as well as the evolution of today's diseases.

In 2005, the glacier mummy was reinvestigated in South Tyrol by Dr. F. Rühli from the Institute of Anatomy at the University of Zurich in Switzerland, in close collaboration with Dr. Eduard Egarter Vigl of the South Tyrol Museum of Archaeology in Bolzano, Italy, as well as Drs. Patrizia Pernter and Paul Gostner from the Department of Radiology at General Hospital Bolzano, by state-of-the-art multislice computed tomography (CT).

Analysis of the CT images showed a lesion of the dorsal wall of the left subclavian artery, the artery underneath the clavicle, caused by an earlier, already-detected arrowhead that remains in the back. In addition, a large hematoma could be visualized in the surrounding tissue. By incorporating historic as well as modern data on the survivorship of such a severe lesion, the scientists concluded that the Iceman died within a short time due to this lesion.

"Such obvious proof of a vascular lesion in a body of this historic age is unique, and it helped to determine the cause of this extraordinary death without a destructive autopsy. We look forward to further investigating the circumstances surrounding the Iceman's sudden death," explains Dr. Dr. Rühli.

This scientific work appeared online in the Journal of Archaeological Science, published by Elsevier and will be covered in the German and US issues of National Geographic magazine in July.

Otzi, The Iceman, Dressed Like A Herdsman

ScienceDaily (Aug. 21, 2008) — A famous Neolithic Iceman is dressed in clothes made from sheep and cattle hair, a new study shows. The researchers say their findings support the idea that the Iceman was a herdsman, and that their technique, reported today in the journal Rapid Communications in Mass Spectrometry, has use in the modern clothing industry.

The social and cultural background of the Iceman, dubbed Otzi, has been the subject of much debate since his mummified remains were discovered in an Alpine glacier in 1991. Although his clothes were known to be made of animal skins, their exact origin was uncertain. This new study focuses on hair samples taken from Otzi's coat, leggings and moccasin shoes.

"We found that the hairs came from sheep and cattle, just the types of animals that herdsmen care for during their seasonal migrations," says lead researcher Klaus Hollemeyer of Saarland University in Germany.

The researchers analyzed hair samples in excess of 5,000 years old using MALDITOF mass spectrometry. This allowed them to study patterns of peptides of fermented proteins present in the ancient hair and compare them with those of modern day animals. They found that Otzi's coat and leggings were made from sheep's fur, whilst his moccasins were of cattle origin.

The researchers believe that MALDITOF mass spectrometry may be faster and more reliable than methods based on DNA analysis and that it could be applied in archaeology and evolutionary biology.

"This method could, for example, be used in checking the purity of products made from animal hair, such as pullovers and jackets made of Cashmere wool," says Hollemeyer. "I think that a major field of application will be to help manufacturers abide by the European Union law concerning the ban of dog and cat fur trade next year."

Iceman Otzi's Last Supper

ScienceDaily (Dec. 2, 2008) — What we eat can say a lot about us - where we live, how we live and eventually even when we lived. From the analysis of the intestinal contents of the 5,200-year-old Iceman from the Eastern Alps, Professor James Dickson from the University of Glasgow in the UK and his team have shed some light on the mummy's lifestyle and some of the events leading up to his death.

By identifying six different mosses in his alimentary tract, they suggest that the Iceman may have traveled, injured himself and dressed his wounds.

The Iceman is the first glacier mummy to have fragments of mosses in his intestine. This is surprising as mosses are neither palatable nor nutritious and there are few reports of mosses used for internal medical treatments. Rather, mosses recovered from archaeological sites tend to have been used for stuffing, wiping and wrapping.

Dickson and colleagues studied the moss remains from the intestines of the Iceman on microscope slides, to find out more about his lifestyle and events during the last few days of his life. Their paper describes in detail the six different mosses identified and seeks to provide answers to two key questions in each case. Firstly, where did the Iceman come in contact with each species; secondly, how did each come to enter his alimentary tract.

In particular, the authors of the new article in Vegetation History and Archaeobotany suggest that one type of moss is likely to have been used to wrap food, another is likely to have been swallowed when the Iceman drank water during the last few days of his life, and yet another would have been used as a wound dressing. One type of moss in the Iceman's gut is not known in the region where the mummy was found, implying that the Iceman must have traveled.

Researchers Complete Mitochondrial Genome Of The Tyrolean Iceman

ScienceDaily (Nov. 1, 2008) — The 5,300 year old human mummy – dubbed Ötzi or 'the Tyrolean Iceman' – is highly unlikely to have modern day relatives, according to new research. A team comprising scientists from Italy and the UK has sequenced Ötzi's entire mitochondrial DNA (mtDNA) genome – which is passed down through the maternal line – and found that he belonged to a genetic lineage that is either extremely rare, or that has died out

Published in this month's issue of Current Biology, the research has generated the oldest complete Homo sapiens mtDNA genome to date, and overturns previous research conducted in 1994 on a small section of Ötzi's mtDNA, which suggested that relatives of Ötzi may still exist in Europe. "Changes arise only gradually in mitochondrial DNA as it is passed down the generations," says co-author Professor Martin Richards of the University of Leeds' Faculty of Biological Sciences, "and so it provides an effective way of tracking ancestry through the female line across many thousands of years, as well as examining evolutionary relatedness across human populations."

The team, led by Professor Franco Rollo at the University of Camerino and Dr Luca Ermini working at both Camerino and Leeds, used powerful new technologies to sequence Ötzi's mtDNA and match it with a modern day haplogroup – in genetic terms, a group that shares a common ancestral DNA sequence. He belonged to a branch of haplogroup K1, which is still common throughout Europe today. However, almost all members of K1 sampled from modern Europeans belong to one of three sub-lineages, whereas Ötzi's lineage was completely distinct.

After death DNA begins to degrade immediately, so ancient DNA is very fragmented and any study of it has to be completed in hundreds of sections. For this research the team tested around 250 fragments, each of which had to be sequenced many times to ensure the results were not distorted.

"Our analysis confirms that Ötzi belonged to a previously unidentified lineage of K1 that has not been seen to date in modern European populations. The frequency of genetic lineages tends to change over time, due to random variations in the number of children people have - a process known as 'genetic drift' - and as a result, some variants die out. Our research suggests that Ötzi's lineage may indeed have become extinct," says Prof Richards.

"We'll only know for sure by sampling intensively in the Alpine valleys where Ötzi was born. However, our results do suggest that studies of ancient samples can fill in gaps in our knowledge left open simply because many genetic lineages died out thousands of years ago. The techniques we've used here are potentially applicable to many other ancient remains."

Ötzi's mummified remains were discovered in September 1991 in the Eastern Alps near the Austro-Italian border. He was approximately 46 years old when he died, and examinations revealed that he had been severely wounded by an arrow and possibly finished off with a mace blow to the face. He is estimated to have lain undiscovered for approximately 5,300 years. His body was almost wholly preserved, together with an array of clothes and weapons, providing an unprecedented insight into the Late Neolithic or Copper Age in Europe. Since 1998 he has been on display at the South Tyrol Museum of Archaeology in Bolzano, Italy. The research was funded by global pharmaceutical company Eli Lilly and Co.

Stone Age Pantry: Earliest Evidence of Humans Using Wild Grains and Tubers

ScienceDaily (Dec. 18, 2009) — The consumption of wild cereals among prehistoric hunters and gatherers appears to be far more ancient than previously thought, according to a University of Calgary archaeologist who has found the oldest example of extensive reliance on cereal and root staples in the diet of early Homo sapiens more than 100,000 years ago.

Julio Mercader, holder of the Canada Research Chair in Tropical Archaeology in the U of C's Department of Archaeology, recovered dozens of stone tools from a deep cave in Mozambique showing that wild sorghum, the ancestor of the chief cereal consumed today in sub-Saharan Africa for flours, breads, porridges and alcoholic beverages, was in Homo sapiens' pantry along with the African wine palm, the false banana, pigeon peas, wild oranges and the African "potato."

This is the earliest direct evidence of humans using pre-domesticated cereals anywhere in the world. Mercader's findings are published in the December 18 issue of the research journal *Science*.

"This broadens the timeline for the use of grass seeds by our species, and is proof of an expanded and sophisticated diet much earlier than we believed," Mercader said. "This happened during the Middle Stone Age, a time when the collecting of wild grains has conventionally been perceived as an irrelevant activity and not as important as that of roots, fruits and nuts."

In 2007, Mercader and colleagues from Mozambique's University of Eduardo Mondlane excavated a limestone cave near Lake Niassa that was used intermittently by ancient foragers over the course of more than 60,000 years. Deep in this cave, they uncovered dozens of stone tools, animal bones and plant remains indicative of prehistoric dietary practices. The discovery of several thousand starch grains on the excavated plant grinders and scrapers showed that wild sorghum was being brought to the cave and processed systematically.

"It has been hypothesized that starch use represents a critical step in human evolution by improving the quality of the diet in the African savannas and woodlands where the modern human line first evolved. This could be considered one of the earliest examples of this dietary transformation," Mercader said. "The inclusion of cereals in our diet is considered an important step in human evolution because of the technical complexity and the culinary manipulation that are required to turn grains into staples."

Mercader said the evidence is on par with grass seed use by hunter-gatherers in many parts of the world during the closing stages of the last Ice Age, approximately 12,000 years ago. In this case, the trend dates back to the beginnings of the Ice Age, some 90,000 years earlier.

Mercader's work was supported by the Canada Research Chairs program, Canada Foundation for Innovation, the Social Sciences and Humanities Research Council of Canada, the U of C's Faculty of Social Science and the National Geographic Society.

Cave Study Links Climate Change to California Droughts

ScienceDaily (Nov. 15, 2009) — California experienced centuries-long droughts in the past 20,000 years that coincided with the thawing of ice caps in the Arctic, according to a new study by UC Davis doctoral student Jessica Oster and geology professor Isabel Montañez.

The finding, which comes from analyzing stalagmites from Moaning Cavern in the central Sierra Nevada, was published online Nov. 5 in the journal *Earth and Planetary Science Letters*.

The sometimes spectacular mineral formations in caves such as Moaning Cavern and Black Chasm build up over centuries as water drips from the cave roof. Those drops of water pick up trace chemicals in their path through air, soil and rocks, and deposit the chemicals in the stalagmite. "They're like tree rings made out of rock," Montañez said. "These are the only climate records of this type for California for this period when past global warming was occurring."

At the end of the last ice age about 15,000 years ago, climate records from Greenland show a warm period called the Bolling-Allerod period. Oster and Montanez's results show that at the same time, California became much drier. Episodes of relative cooling in the Arctic records, including the Younger Dryas period 13,000 years ago, were accompanied by wetter periods in California.

The researchers don't know exactly what connects Arctic temperatures to precipitation over California. However, climate models developed by others suggest that when Arctic sea ice disappears, the jet stream -- high-altitude winds with a profound influence on climate -- shifts north, moving precipitation away from California.

"If there is a connection to Arctic sea ice then there are big implications for us in California," Montañez said. Arctic sea ice has declined by about 3 percent a year over the past three decades, and some forecasts predict an ice-free Arctic ocean as soon as 2020.

Oster's analysis of the past is rooted in a thorough understanding of the cave in the present. Working with the cave owners, she has measured drip rates, collected air, water, soil and vegetation samples, and studied what happens to the cave through wet and dry seasons to determine how stalagmites are affected by changing conditions.

Oster collected stalagmites and cut tiny samples from them for analysis. The ratio of uranium to its breakdown product, thorium, allowed her to date the layers within the stalagmite. Isotopes of oxygen, carbon and strontium and levels of metals in the cave minerals all vary as the climate gets wetter or drier.

"Most respond to precipitation in some way," Oster said. For example, carbon isotopes reflect the amount of vegetation on the ground over the cave. Other minerals tend to decrease when rainfall is high and water moves through the aquifer more rapidly. Oxygen-18 isotopes vary with both temperature and rainfall. Measuring the other mineral compositions provides more certainty that the changes primarily track relative rainfall.

The stalagmite records allowed Oster and Montañez to follow relative changes in precipitation in the western Sierra Nevada with a resolution of less than a century. "We can't quantify precipitation, but we can see a relative shift from wetter to drier conditions with each episode of warming in the northern polar region," Montañez said.

Other authors on the paper are Warren Sharp, a geochronologist at the Berkeley Geochronology Center, and Kari Cooper, associate professor of geology at UC Davis.

The research was funded by the National Science Foundation.

Minutes – IPCAS Executive Board Meeting; December 3, 2009; 7:00–9:00PM

Board Member Attendees: Kris Holien, Tom Cree, Cheryl Damon, Joanne Turner, Dave Hawley **Secretary's Report (Hawley)**: August 6, 2009 Board Meeting Minutes were published in September *Calumet*.

Treasurer's Report (McComb):

End of Month Date	Beginning Balance	Ending Balance	Number of Renewals
August 31, 2009	\$2,270.33	\$2,314.43	0
September 30, 2009	\$2,314.43	\$2,194.33	2
October 31, 2009	\$2,194.33	\$2,405.76	3
November 30, 2009	\$2,405.76	\$2,537.01	9

Recent Expenditure: \$480 for Museum rental (8 nights @\$60, 9/09 thru 5/10)

Upcoming Expenditures: \$75 St. Andrew Church (Christmas Party), \$44 for P.O. Box (this is semi-annual charge), \$100 – Donation to Alice Hamilton Scholarship Fund – given each year, \$25 – Honorarium for presenter at Chapter meeting– Barnes & Noble, NOTE: A 5-year IPCAS internet domain subscription was paid in October.

President's Report (Holien): Re membership, noted that membership 2 years ago was 103, and is now about 70. Noted that about 40% of the persons on the IPCAS roster were overdue on dues. Board has made a decision to move to an "Annual Dues" process (will prorate) in 2010, wherein dues are paid during the first 3 months for each year. Requires a change in the Bylaws.

Kris handed out copies of the Bylaws that included the Treasurer duties (drafted by Katherine McComb) as an add-on. In response to a member question, the duties of President, Vice President, and Treasurer were further discussed.

Kris shared that Anne Robinson volunteered to be President (Anne was unable to attend this meeting), but we needed a full slate of Officers to continue as a viable Chapter. Other positions such as Membership, Outreach Coordinator, and Librarian also needed to be filled to enable us to grow as a Chapter.

New Businesss:

Carolyn Camell-Coppin volunteered to be Treasurer. She shared that she has a financial background. Karen Kinnear volunteered to be Vice President. She has limited experience in the Chapter, but is willing to learn from Anne and the Board.

Chris Strachan volunteered to be Outreach Coordinator. She is a teacher at Longmont High, will start a pilot program there. Dave Hawley will put her in touch with Kevin Black for assistance in gathering artifacts for demonstrations.

Dave Hawley noted that the Perishables Materials PAAC class had just concluded and had 17 paid members, many of which were from the Weaver's Guild. He also announced that the Colorado Springs Chapter was hosting the one-day PAAC class - *Introduction to Archeology, CAS, and PAAC* – on January 24, 2009 – that the cost for CAS members was \$12 and the cost for non-CAS members was \$20, and that members of IPCAS could sign up.

Ideas for re-energizing IPCAS were broached: © Provide notifications that Board meetings are open to all members; © Solicit graduate students for the Board / Officers in future; © Establish Outreach programs; © Define what members receive in return for their membership dues − what is the "glue" that ties them to IPCAS; © Possibly re-establish a library; © The Board dissolved the library a number of years ago, but should it be reformed; © It was noted that the CU museum will likely not provide storage space for library items; © Coordinate field trips with other Chapters; © List IPCAS on social networking sites; © Allow field trip sign-ups at Board meetings, thereby encouraging members to attend Board meetings; © Take advantage of satellite programming at the Denver Museum of Nature & Science; © Arrange classes available only to members (example cited was the Anasazi pottery class held in 2008); © Coordinate with CU Henderson Museum programs. © Schedule annual activities − i.e., every year, every other year, or every third year schedule certain activities / trips / field trips that the Board will consider sponsoring. © Schedule an Annual Membership Meeting − possibly in January or each year (quieter time) to generate ideas / feedback on IPCAS operations.

Cheryl announced details about the Christmas Party on 12/10/09 – at St Andrews Church – potluck + White Elephant gifting – set-up at 5:00 to 5:30 pm, and start at 6:00 pm.

2009 IPCAS Officers, Board Members, and major functions

President	Kris Holien	(970) 586-8982	kjholien@aol.com	
Vice-President	Open			
Treasurer	Katherine McComb	(303) 666-7448	kmccomb@comcast.net	
Secretary	Dave Hawley	(303) 443-2332	dave_hawley@comcast.net	
Professional Advisor	Dr. Robert Brunswig	(970) 351-2138	robert.brunswig@unco.edu	
Professional Advisor	Pete Gleichman	(303) 459-0856	pjgleichman@yahoo.com	
PAAC Coordinator	Dave Hawley	(303) 443-2332	dave_hawley@comcast.net	
CAS Representative	Kris Holien	(970) 586-8982	kjholien@aol.com	
Internet Manager	Cyndi Cree	(310) 663-0656	c_cree@hotmail.com	
Archivist/Librarian	Kris Holien	(970) 586-8982	kjholien@aol.com	
Calumet Editor	Tom Cree	(303) 776-7004	tomcree@earthlink.net	
Board Member	Rick Pitre	(303) 673-0272	rpitre9@yahoo.com	
Board Member	Joanne Turner	(303) 494-7638	joanne.turner@colorado.edu	
Board Member	Cheryl Damon	(303) 678-8076	cheryl_damon@msn.com	
MEMBERSHIP ARRA CATAON MIRAAN REALIZA SHARRED				

Board Member Cheryi Bamon	(303) 070 0070 CHETY CHARGE HISH, COM				
MEMBERSHIP APPLICATION - INDIAN PEAKS CHAPTER					
Individual \$28.50 / Year Fa					
New Re					
Tax-Exempt Donation \$10, \$25, \$50, O	ther				
NAME TELEP	HONE ()				
ADDRESS E-MAII	·				
CITY STATE	ZIP				
Please make check payable to: Indian Peaks Chapter, CAS Mail to: PO Box 18301, Boulder, CO 80308-1301					
I(We) give CAS permission to: Yes No disclose phone numbers to other CAS members Yes No publish name/contact information in chapter directory					
Yes No publish name in newsletter (which may be sent to other chapters, published on the internet, etc.) CODE OF ETHICS					
As a member of the Colorado Archaeological Society, I pledge:					
	icies and educational programs designed to protect our cultural heritage and				
	rage exploitation of archaeological resources. To encourage the study and				
	o take an active part by participating in field and laboratory work for the				
	at the past. To respect the property rights of landowners. To assist whenever				
	sites within Colorado, using State Site Survey forms. To respect the dignity				
	re the subject of any investigation. To support only scientifically conducted				
	esty, deceit or misrepresentation about archaeological matters. To report enewable and do not belong to you or me, but are ours to respect, to study				
and to enjoy.	newable and do not belong to you of me, but are outs to respect, to study				
Signature: Signatur	e:				
	···				

CALUMET

Newsletter of the Indian Peaks Chapter of the Colorado Archaeological Society P.O. Box 18301 Boulder, CO 80308-1301